IN THE CLAIMS:

1. (currently amended) A method, comprising:

providing a substrate having an active region that has a top surface;

forming a first layer over the top surface, wherein the first layer comprises an oxygen-rich, semiconductor-material layer;

epitaxially growing a second layer directly on the first layer, wherein the second layer comprises a semiconductor-material layer; ~~and~~

converting the first layer to a semiconductor-oxide layer; and

forming a transistor, wherein a channel of the transistor is formed only in the second layer.

2. (currently amended) The method of claim 1, wherein a deep source and a deep drain of the transistor are formed only in the second layer. ~~further comprising:~~

~~forming a transistor using the second layer for a channel of the transistor.~~

3. (original) The method of claim 1, wherein the oxygen-rich, semiconductor-material layer comprises oxygen-rich silicon.

4. (original) The method of claim 1, wherein the second layer comprises monocrystalline silicon.

5. (original) The method of claim 4, wherein the first layer comprises oxygen-rich monocrystalline silicon.

6. (original) The method of claim 1, wherein the converting further comprises forming an oxide layer on a top surface of the second layer.

7. (original) The method of claim 6, further comprising:

removing at least a portion of the oxide layer; and

forming a gate dielectric on the second layer.

8. (currently amended) The method of claim 7, wherein the transistor further comprises ~~further comprising forming a transistor having~~ a gate over the gate dielectric, and ~~a channel under the gate and in the second layer,~~ a deep source and a deep drain in the second layer and laterally spaced from the channel, wherein the channel is under the gate, and the deep source and the deep drain are formed only in the second layer.

9. (original) The method of claim 8, wherein the substrate comprises silicon.

10. (original) The method of claim 8, wherein the converting comprises introducing high temperature water vapor over the second layer.

11. – 26. (cancel)

27. (new) The method of claim 2, wherein the deep source and the deep drain extend to the semiconductor-oxide layer.

28. (new) The method of claim 2, wherein the transistor is further characterized as having an elevated source over the deep source and an elevated drain over the deep drain.

29. (new) The method of claim 2, wherein a gate dielectric of the transistor is formed on the second layer, without an intervening semiconductor layer between the second layer and the gate dielectric.

30. (new) The method of claim 1, wherein a source and a drain of the transistor extend to the semiconductor-oxide layer.

31. (new) The method of claim 8, wherein the transistor is further characterized as having an elevated source over the deep source and an elevated drain over the deep drain.

32. (new) The method of claim 8, wherein the gate dielectric is formed directly on the second layer.

33. (new) A method, comprising:

providing a substrate having an active region that has a top surface;

forming a first layer over the top surface, wherein the first layer comprises an oxygen-rich, semiconductor-material layer;

epitaxially growing a second layer directly on the first layer, wherein the second layer comprises a semiconductor-material layer;

converting the first layer to a semiconductor-oxide layer; and

forming a gate dielectric on the second layer, wherein there is no semiconductor layer between the gate dielectric and the second layer.

34. (new) The method of claim 33, wherein the gate dielectric is formed directly on the second layer.

35. (new) The method of claim 33, further comprising forming a transistor having a gate over the gate dielectric, a channel under the gate and in the second layer, a deep source and a deep drain in the second layer and laterally spaced from the channel.

36. (new) The method of claim 35, wherein the deep source and the deep drain extend to the semiconductor-oxide layer.

37. (new) The method of claim 35, wherein the converting further comprises forming an oxide layer on a top surface of the second layer, and wherein the method further comprises:

removing at least a portion of the oxide layer prior to forming the gate dielectric.

38. (new) The method of claim 33, wherein the oxygen-rich, semiconductor-material layer comprises oxygen-rich silicon.

39. (new) The method of claim 33, wherein the second layer comprises monocrystalline silicon, and the first layer comprises oxygen-rich monocrystalline silicon.

40. (new) A method, comprising:

providing a substrate having an active region that has a top surface, a first isolation region, and a second isolation region;

selectively forming a first layer over the top surface between the first and second isolation regions, wherein the first layer comprises an oxygen-rich, semiconductor-material layer;

selectively epitaxially growing a second layer directly on the first layer between the first and second isolation regions, wherein the second layer comprises a semiconductor-material layer, and wherein the second layer is not formed on the first and second isolation regions; and

converting the first layer to a semiconductor-oxide layer.

41. (new) The method of claim 40, further comprising:

forming a transistor over the second layer, the transistor having a gate dielectric over the second layer, a channel under the gate in the second layer, a deep source and deep drain in the second layer and laterally spaced from the channel, wherein the channel, the deep source, and the deep drain are formed only in the second layer.

42. (new) The method of claim 41, wherein the deep source and the deep drain extend to the semiconductor-oxide layer.